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TITLE: SOLID SUBSTANCE HAVING ANTIMICROBIAL ACTION,  
ITS  
PRODUCTION AND ANTIMICROBIAL ACTION ON LIQUID  
AND ITS  
FLOW CHANNEL

PUBN-DATE: May 28, 1996

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ABSTRACT:

PURPOSE: To obtain a solid substance capable of minimizing the elution rate of silver and thus maintaining antimicrobial action for a long period of time.

CONSTITUTION: This solid substance having antimicrobial action is obtained by forming a layer comprising silver particles on the surface of a substrate through a layer having a photocatalytic action on the substrate or forming the layer comprising the silver particles on a carrier having photocatalytic action and further making at least partially a slightly soluble silver salt

(preferably silver chloride) on the surface of the layer comprising the silver particles. The antimicrobial agent comprising particles containing silver element supported through the layer having photocatalytic action on the substrate or the antimicrobial agent comprising particles containing the silver element supported on the carrier having photocatalytic action is immersed in a solution having  $\geq 30$ ppm and  $< 3,000$ ppm chlorine concentration and the slightly soluble silver salt is formed to produce the solid substance. The antimicrobial agent is placed in a liquid or its flow channel and brought into contact with chlorine ion. Silver has high elution rate at an early stage but reduces it during the process of formation of the only slightly soluble silver salt. Silver is finally eluted in a fixed minimized elution rate, to sterilize a liquid and its flow channel.

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